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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Shigeo Ii

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WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
1250 CONNECTICUT AVENUE, NW
SUITE 700
WASHINGTON, DC 20036

EXAMINER

LEA, CHRISTOPHER RAYMOND

ART UNIT

PAPER NUMBER

1619

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/532,077	Applicant(s) II ET AL.	
	Examiner Christopher R. Lea	Art Unit 1619	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) 6 and 8 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>11/12/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This application is a 371 (national stage application) of PCT/JP03/13469.

Receipt of Amendments/Remarks filed on November 12, 2008, is acknowledged. In response to Non-final office action dated June 13, 2008, applicant amended claim 1 and added no new claims. Claims 1-8 are pending. Claims 1-5 & 7 are under examination.

Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. All new rejections applied have been necessitated by applicant's submission of newly discovered prior art. They constitute the complete set presently being applied to the instant application.

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on March, 9, 2009, was filed after the mailing date of the first Office action on the merits. The submission is in compliance with the provisions of 37 CFR 1.97 & 1.98. Accordingly, the information disclosure statement is being considered by the examiner.

Response to Arguments

2. Applicant's arguments, see page 6 and the accompanying declaration under 37 CFR 1.132, filed November 12, 2008, with respect to the rejection(s) of claim(s) 1-5 & 7 under 35 U.S.C. 102 & 103 have been fully considered and are persuasive. Therefore,

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the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Xiang (CN1146303, cited by applicant on the IDS filed March, 9, 2009).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 3, & 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Xiang (CN1146303, cited by applicant on the IDS filed March, 9, 2009 and with respect to the attached translation) as witnessed by Ross et al. (Applied and Environmental Microbiology, Vol. 67 No. 1, p475-480).

Claims 1 & 5: Xiang teaches a method for manufacturing microcapsules containing a spice oil, specifically garlic oil (Example 2, pages 9-10, a volatile oily antibacterial substance) as a core of a microcapsule formed by edible gum (a water-soluble film forming agent) (all in Example 2 pages 9-10, and generically in 1st paragraph, page 6). Xiang further teaches that the composition resulting from the method may be in a powdery form (1st paragraph, page 6). Garlic oil is a volatile oily antibacterial substance (Ross et al. whole disclosure, specifically paragraphs 1-3). As to the claimed humidity-dependent release behavior, where the claimed and prior art products are identical in structure or composition, or are produced by identical

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processes, a *prima facie* case of anticipation has been established. Further, The U.S. Patent Office is not equipped with analytical instruments to test prior art compositions for the infinite number of ways that a subsequent applicant may present previously unmeasured characteristics. When as here, the prior art appears to contain the exact same ingredients and applicant's own disclosure supports the suitability of the prior art composition as the inventive composition component, the burden is properly shifted to applicant to show otherwise. Absent evidence to the contrary, the prior art composition must possess the claimed humidity-dependent release behavior, since it is substantially identical to the claimed composition (See MPEP § 2112.01).

Claim 3: Okada *et al.* teach that acacia gum (synonym for gum arabic) is among the possible membrane-forming edible gums for use in the invention (1st paragraph, page 6).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

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2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
7. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).
8. Claims 1, 2, 4, & 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Xiang (CN1146303) in view of Okada et al. (US Patent 5,985,303).

Applicant claims

Applicant claims a humidity-dependent antibacterial powdery substance containing a volatile oily antibacterial substance encapsulated by a water-soluble film-forming agent. Applicant further specifies the antibacterial substance as an isothiocyanate ester and the composition as a containing a powder vehicle. Applicant also claims a packaging composition comprising the humidity-dependent antibacterial powdery composition.

Determination of the scope and content of the prior art (MPEP 2141.01)

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Since claims 2, 4, & 7 depend from claim 1, rejection of claim 1 under 35 USC 103 is also appropriate.(The rejection of claim 1 and the teachings of Xiang are described above in the 102 section.)?

**Ascertainment of the difference between the prior art and the claims
(MPEP 2141.02)**

The difference between the teachings of Xiang and the instant claims is that Xiang does not teach allyl isothiocyanate as the active agent or employing the composition as a shelf-life extender – incomplete sentence. This deficiency in Xiang is cured by the teachings of Okada et al.

Okada et al. teach, as a whole, a shelf-life extender for food use.

Claim 1: Okada et al. teach an antibacterial powdery composition (abstract).

Claim 2: Okada et al. teach that allyl isothiocyanate is the preferred active ingredient (column 2 lines 45-53 and claim 4).

Claim 4: Okada et al. teach that starch is among the possible polysaccharides for use in the matrix, and that multiple matrix substances are possible in the composition (column 2 line 64 through column 3 line 12). A combination of starch and another polysaccharide allows the starch to act as a powder vehicle.

Claim 7: Okada et al. teach employing the powdery shelf-life extender composition in a food storing package (column 4, lines 1-35).

**Finding of *prima facie* obviousness
Rationale and Motivation (MPEP 2142-2143)**

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It would have been *prima facie* obvious to one of ordinary skill in the art at the time the claimed invention was made to employ allyl isothiocyanate as taught by Okada et al. in the microencapsulation technology as taught by Xiang and produce the instant invention. The skilled artisan would have been motivated to incorporate allyl isothiocyanate as the oil in the method of Xiang because allyl isothiocyanate is an oily extract of horseradish or mustard (spices) and Xiang teaches that any spice oil is useful to be microencapsulated.

From the teachings of the references, it is apparent that one of ordinary skill in the art would have had a reasonable expectation of success in using allyl isothiocyanate in the microencapsulation method and producing the claimed invention. Therefore, the invention as a whole would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made, as evidenced by the references, especially in the absence of evidence to the contrary.

In light of the forgoing discussion, one of ordinary skill in the art would have concluded that the subject matter defined by the instant claims would have been obvious within the meaning of 35 USC 103(a).

Conclusion

Claims 1-5 & 7 are rejected. Claims 6 & 8 are withdrawn. No claims are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher R. Lea whose telephone number is (571) 270-5870. The examiner can normally be reached on Mon-Thu 7:30-5:00 ET.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on (571)272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CRL

/Johann R. Richter/
Supervisory Patent Examiner, Art Unit 1616